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INFORMATION DISCLOSURE CITATION SUPPLEMENTAL PTO-1449		ATTORNEY'S DKT NO. 07953.0004.999	APPLICATION NO. 08/844,336
		APPLICANT Pamela A. Contag, et al.	
		FILING DATE April 18, 1997	GROUP 1815



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U.S. PATENT DOCUMENTS

EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
VR	4,762,701	8/8/1988	Horan, et al.	424	11	
VR	4,912,031	3/27/1990	Compton, et al.	435	7	
VR	5,283,179	2/1994	Wood	435	8	
VR	5,622,868	4/22/1997	Clarke et al.	436	147	
VR	5,281,539	1/25/1994	Schramm	436	518	
VR	5,283,179	2/1/1994	Wood	435	8	Duplicate
VR	5,418,132	5/23/1995	Olivo	435	5	
VR	5,466,575	11/14/1995	Cozzette	435	6	

FOREIGN PATENT DOCUMENTS

EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
VR	0 263 657	13.04.88	EP				
VR	0 730 868 A1	19.02.1996	EP				
VR	WO 86/01806	27.03.1986	PCT				
VR	WO 86/01805	27.03.1986	PCT				
VR	0 263 657 A3	05.10.87	EP				
VR	WO 91/01305	07.02.91	PCT				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

VR	Alfano, R.R., et al., 1987, "Flourescence Spectra from Cancerous and Normal Human Breast and Lung Tissues," <i>IEEE Journal of Quantum Electronics</i> QE-23 (10): 1806-1811
VR	Alfano, R.R., et al., 1991, "Light Sheds Light on Cancer-Distinguishing Malignant Tumors from Benign Tissues and Tumors," <i>Bull N.Y. Acad. Med.</i> 37(2):143-150
VR	Araki, Kazuo, 1995, " Photo-detection of transferred gene expression in fish," <i>Chemical Abstracts</i> 123: Abstract no. 189418
VR	Casedi, J., et al., 1990, "Expression and Secretion of Aequorin as a Chimeric Antibody by Means of a Mammalian Expression Vector," <i>Proc. Natl. Acad. Sci. USA</i> 87:2047-2051
VR	Chalfie, M. et al., 1994, "Green *Flourescent Protein as a Marker for Gene Expression," <i>Science</i> 263:802-805
VR	Contag et al., 1994, "Optical tracking of Infection In Vivo Using Light- Generating Probes," <i>Pediatric Research</i> 37:172A
VR	Hooper, C.E., et al., CCD Imaging of Luciferase Gene Expression in Single Mammalian Cells," <i>journal of Bioluminescence and Chemiluminescence</i> , 5:123-130
VR	Horan, et al., 1990, "Flourescent Cell Labeling for In Vivo and In Vitro cell tracking," <i>Methods in Cell Biology</i> 33:469-490
VR	Korpela, M. et al., " Stable light emitting Escherichia coli as a Biosensor," <i>Journal of Bioluminescence and Chemiluminescence</i> 4: 551-554
VR	Kuhn et al., 1991 <i>Arch Surg.</i> 126:1398-1403
VR	Mackay et al., 1994, "Thermostability of bacterial luciferase expressed in different microbes," <i>J. Appl. Bacteriol.</i> 77: 149-54 (WILL BE SENT UNDER SEPARATE COVER)
VR	Mayer et al., 1994, "Luminescent Labels-More than just an Alternative to Radioisotopes?," <i>Angewandte Chemie International Edition</i> 33:1044-10-22
VR	Meighen, E.A., 1993, "Bacterial Bioluminescence: Organization, Regulation and Application of the lux Genes," <i>The FASEB Journal</i> 7:1016-1022
VR	Mueller-Kliesser and Walenta, 1993, " Geographical Mapping of Metabolites in Biological Tissue with Quantitative Bioluminescence and Single Photon Imaging," <i>Histochemical Journal</i> 25:407-420
VR	Schaefer, C. et al., 1992, "Oxygenation and Bioenergetic Status of Murine Fibrosarcomas," <i>Oxygen</i>

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<p>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</p> <table border="1"> <tr> <td>VR</td> <td>Tamiya, et al., 1990, "Spatial Imaging of Luciferase Gene Expression in Transgenic Fish," <i>Nucleic Acids Research</i> 18(4):1072</td> </tr> <tr> <td>VR</td> <td>Tang, et al., 1989, "Spectroscopic Difference between Human Cancer and Normal Lung and Breast Tissues," <i>Lasers in Surgery and Medicine</i> 9:290-295</td> </tr> <tr> <td>VR</td> <td>Wood, et al., 1989, "Complementary DNA Coding Click Beetle Luciferases Can Elicit Bioluminescence of Different Colors," <i>Science</i> 244:700-702</td> </tr> <tr> <td>VR</td> <td>Zhang, et al., 1994, "Luciferase Activity as a Marker of Tumor Burden and as an indicator of Tumor Response to Antineoplastic Therapy <i>in vivo</i>," <i>Clinc. Exp. Metastasis</i> 12:87-92</td> </tr> </table>				VR	Tamiya, et al., 1990, "Spatial Imaging of Luciferase Gene Expression in Transgenic Fish," <i>Nucleic Acids Research</i> 18(4):1072	VR	Tang, et al., 1989, "Spectroscopic Difference between Human Cancer and Normal Lung and Breast Tissues," <i>Lasers in Surgery and Medicine</i> 9:290-295	VR	Wood, et al., 1989, "Complementary DNA Coding Click Beetle Luciferases Can Elicit Bioluminescence of Different Colors," <i>Science</i> 244:700-702	VR	Zhang, et al., 1994, "Luciferase Activity as a Marker of Tumor Burden and as an indicator of Tumor Response to Antineoplastic Therapy <i>in vivo</i> ," <i>Clinc. Exp. Metastasis</i> 12:87-92
VR	Tamiya, et al., 1990, "Spatial Imaging of Luciferase Gene Expression in Transgenic Fish," <i>Nucleic Acids Research</i> 18(4):1072										
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VR	Zhang, et al., 1994, "Luciferase Activity as a Marker of Tumor Burden and as an indicator of Tumor Response to Antineoplastic Therapy <i>in vivo</i> ," <i>Clinc. Exp. Metastasis</i> 12:87-92										
EXAMINER		DATE CONSIDERED									
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INFORMATION DISCLOSURE CITATION P-1249				ATTORNEY'S DKT NO. 7953.0004.999	APPLICATION NO. 08/844,336	
				APPLICANT: Pamela R. Contag, et al.		
				FILING DATE: April 18, 1997		GROUP: 1641
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
VR	5,650,135	07/22/97	Contag, et al.	424	9, 1	07/01/94
FOREIGN PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
VR	Blom, et al., 1993 "A Baculovirus-Expressed Fusion Protein Containing the Antibody-Binding Domain of Protein A and Insect Luciferase." <i>BioTechniques</i> 14(5):800-809					
VR	Brennan, et al., 1995 "A Molecular Sensor System Based On Genetically Engineered Alkaline Phosphatase." <i>Proc. Natl. Acad. Sci. USA</i> 92:5783-5787					
VR	Borrebaeck et al., 1992 "Kinetic analysis of Recombinant Antibody-Antigen Interactions: Relation Between Structural Domains and Antigen Binding." <i>Biotechnology</i> 10(6):697-698					
VR	Brasier, et al., 1992 "Luciferase Reporter Gene Assay in Mammalian Cells." <i>Methods. in Enzymology</i> 216:386-396.					
VR	Candido, et al., 1996 "Transgenic <i>Caenorhabditis elegans</i> strains as biosensors." <i>Trends in Biotechnology</i> 14:125-129					
VR	Contag, et al., 1997 "Visualizing Gene Expression in Living Mammals Using a Bioluminescent Reporter." <i>Photochemistry and Photobiology</i> 66(4):523-531					
VR	Contag, et al., 1995 "Photonic detection of bacterial pathogens in living hosts." <i>Molecular Microbiology</i> 18(4):593-603					
VR	DiLella, et al., 1988 "Utility of firefly luciferase as a reporter gene for promoter activity in transgenic mice." <i>Nucleic Acids Research</i> 16(9):4159					
VR	Enberg, B., et al. 1994 "Growth hormone (GM) regulation of a rat serine protease inhibitor fusion gene in cells transfected with GH receptor cDNA." <i>Journal of Molecular Endocrinology</i> 12:39-46					
VR	Frackman, et al., 1990 "Cloning, Organization, and Expression of the Bioluminescence Genes of <i>Xenorhabdus luminescens</i> ." <i>Journal of Bacteriology</i> 172(10):5767-5773.					
VR	Griffiths et al., 1998 "Strategies for selection of antibodies by phage display." <i>Current Opinion in Biotechnology</i> 9:102-108.					
VR	Hannibal, et al. 1994 "Multiple cis-acting elements in the human immunodeficiency virus type 2 enhancer mediate the response to T-cell receptor stimulation by antigen in a T-cell hybridoma line." <i>Blood</i> 83(7):1839-1846					
VR	Hasemann, et al., 1989 "Immunoglobulins: Structure and Function", In <i>Fundamental Immunology</i> 2nd (Ed.) W.E. Paul:209-233.					
VR	Hoogenboom, et al., 1991 "Multi-subunit proteins on the surface of filamentous phage: methodologies for displaying antibody (Fab) heavy and light chains." <i>Nucleic Acids Research</i> 19(15):4133-4137					
VR	Hooper et al., 1994 "Low-Light Imaging Technology in the Life Sciences." <i>Journal of Bioluminescence and Chemiluminescence</i> 9:113-122.					
VR	Huse et al., 1989 "Generation of a Large Combinatorial Library of the Immunoglobulin Repertoire in Phage Lambda." <i>Science</i> 246:1273-1281					
VR	Israel, et al., 1991 "Bioluminescence assay for gene expression by continuously growing mammalian cells: application for detection of human immunodeficiency virus type 1 (HIV-1)." <i>Gene</i> 104:139-145.					
VR	Karube, et al., 1994, "Immobilized cells used for detection and analysis" <i>Curr. Opin. Biotechnol.</i> 5(1):54-59.					
VR	Kasahara, et al., 1991 "Molecular analysis of the <i>Salmonella typhimurium</i> phoN gene, which encodes nonspecific acid phosphatase." <i>Journal of Bacteriology</i> 173(2):6760-6765					

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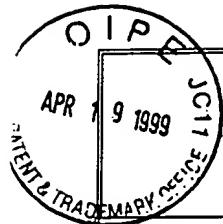


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VR	Kasahara, et al., 1992 "Molecular analysis of the Escherichia coli phoP-phoQ operon." <i>Journal of Bacteriology</i> 174(2):492-498.		
VR	Kohl et al., 1990, "Engineered gene for Escherichia coli alkaline phosphatase for the construction of translational fusions." <i>Nucleic Acids Res.</i> 18:1069		
VR	Kohl, et al., 1991 "Cloning and Expression of an HIV-1 Specific Single-Chain F. Region Fused to <i>Escherichia coli</i> Alkaline Phosphatase." <i>Ann NY Acad Sci.</i> 646:106-114		
VR	Kovacs, et al., 1991 "Firefly luciferase as a marker for herpesvirus (pseudorabies virus) replication in vitro and in vivo" <i>J. Gen. Virol.</i> 72:2999-3008		
VR	McCafferty, et al., 1990 "Phage antibodies: filamentous phage displaying antibody variable domains." <i>Nature</i> 348:552-554		
VR	Miller, et al., 1989 "A two-component regulatory system (phoP phoQ) controls <i>Salmonella typhimurium</i> virulence." <i>Proc. Natl. Acad. Sci. USA</i> 86:5054-5058.		
VR	Miller, S.I., 1991 "PhoP/PhoQ: macrophage-specific modulators of <i>Salmonella</i> virulence?" <i>Molecular Microbiology</i> 5(9):2073-2076		
VR	Mueller-Klieser, et al., 1993 "Geographical Mapping of Metabolites in biological tissue with quantitative bioluminescence and single photon imaging." <i>Institute of Physiology & Pathophysiology</i> 16 November 1992 and in revised from 23 January 1993		
VR	Orum, et al., 1993 "Efficient method for constructing comprehensive murine Fab antibody libraries displayed on phage." <i>Nucleic Acids Res</i> 21:4491-4498.		
VR	Ottemann, et al., 1993 "Converting a transmembrane receptor to a soluble receptor: recognition domain to effector domain signaling after excision of the transmembrane domain." <i>Proc. Natl. Acad. Sci. USA</i> 94:11201-11204		
JR	Parkinson, J.S., 1993 "Signal Transduction Schemes of Bacteria." <i>Cell</i> 73:857-871.		
VR	Ramanathan, et al., 1997 "Bacterial biosensors for monitoring toxic metals." <i>Trends Biotechnol</i> 15:500-506.		
VR	Ronald et al., 1990, "Construction of broad-host-range for the selection of divergent promoters." <i>Gene</i> 90:145-148.		
VR	Rupani, et al., 1996 "Characterization of the Stress Response of a Bioluminescent Biological Sensor in Batch and Continuous Cultures." <i>Biotechnol. Prog.</i> 12:387-392.		
VR	Soncini, et al., 1995 "Transcriptional autoregulation of the <i>Salmonella typhimurium</i> phoPQ operon." <i>Journal of Bacteriology</i> 177(15):4364-4371		
VR	Soncini, et al., 1996 "Molecular basis of the magnesium deprivation response in <i>Salmonella typhimurium</i> : identification of PhoP-regulated genes." <i>Journal of Bacteriology</i> 178(17):5092-5099		
VR	Swift, et al., 1994 "Gram-negative bacterial communication by N-acyl homoserine lactones: a universal language?" <i>Trends in Microbiology</i> 193:2(6):193-198		
VR	Szittner, et al., 1990 "Nucleotide Sequence, Expression, and Properties of Luciferase Coded by lux genes from a Terrestrial Bacterium." <i>J. Biol. Chem.</i> 265:16581-16587		
VR	Van Dyk, et. al. 1994 "Rapid and sensitive pollutant detection by induction of heat shock gene-bioluminescen gene fusion's." <i>Applied and Environmental Microbiology</i> 60(5):1414-1420		
VR	Weiss, et al., 1994 "Application of an alkaline phosphatase fusion protein system suitable for efficient screening and production of Fab-enzyme conjugates in <i>Escherichia coli</i> " <i>J. Biotechnol.</i> 33:43-53		
VR	Vescovi, et al., 1996 "Mg ²⁺ as an Extracellular signal: environmental regulation of <i>Salmonella</i> virulence." <i>Cell</i> 84:165-174.		
VR	Willardson, et al., 1998 "Development and Testing of a Bacterial Biosensor for Toluene-Based Environmental Contaminants." <i>Applied and Environmental Microbiol</i> 64(3):1006-1012		
VR	Wood, et al., 1996 "Transduction in microbial biosensors using multiplexed bioluminescence." <i>Biosensors & Bioelectronics</i> Vol. 11(3):207-214		
R	Xi et al., 1991, "Cloning and Nucleotide Sequences of lux Genes and Characterization of Luciferase of <i>Xenorhabdus luminescens</i> from a Human Wound." <i>J. Bact.</i> 173:1399-1405.		
EXAMINER	VR	DATE CONSIDERED	1/99

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INFORMATION DISCLOSURE CITATION PTO-1449				ATTORNEY'S DKT NO. PXE-002P1.US	APPLICATION NO. 08/844,336	
				APPLICANT: Pamela R. Contag, et al.		
				FILING DATE: April 18, 1997	GROUP: 1641	
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
VR	5,612,184	03/18/97	Rosson, A.	435	6	06/06/95
FOREIGN PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
VR	Blum, et al. 1989 "Design of luminescence photobiosensors." <i>Journal of Bioluminescence and Chemiluminescence</i> 4:543-550.					
VR	Danilov, et al. 1989 "Bacterial Luciferase as a Biosensor of Biologically Active Compounds." <i>Biotechnology</i> 11:39-78.					
VR	Kobatake, et al., 1995 "Biosensing of benzene derivatives in the environment by luminescent <i>Escherichia coli</i> " <i>Biosensors & Bioelectronics</i> 10:601-605.					
VR	Kubo, et al. 1991 "Whole-Organism Based Biosensors and Microbiosensors." <i>Advances in Biosensors</i> 1:1-32					
VR	Sedlack, et al 1995 "Bioluminescent Technology for Reagents, Diagnostics and Toxicology." <i>Genetic Engineering News Genetic Engineering News</i> 8 (September 15, 1995).					
VR	Wilmes-Riesenbergs, et al. 1992 "TnphoA and TnphoA' elements for making and switching fusions for study of transcription, translation, and cell surface localization." <i>J. Bacteriol</i> 174:4558-75					
EXAMINER	<i>V. R.</i>			DATE CONSIDERED	6/99	

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				FILING DATE: April 18, 1997 GROUP: 1641		
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
VR	5,348,867	09/20/94	Georgiou, et al.	435	697	11/15/91
VR	5,591,604	01/07/97	Fuchs, et al.	435	697	07/06/92
FOREIGN PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation
VR	WO 97/08553	6 Mar 1997	PCT	—	—	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
VR	Collet, T.A., et al. 1992 "A binary plasmid system for shuffling combinatorial antibody libraries." <i>Proc. Natl. Acad. Sci. USA</i> 89:10026-10030					
VR	Francisco, J.A., et al. 1994 "The Expression of Recombinant Proteins on the External Surface of <i>Escherichia coli</i> ." <i>Ann. N.Y. Acad. Sci.</i> 745:372-382					
VR	Fuchs, et al. 1991 "Targeting Recombinant Antibodies to the Surface of <i>Escherichia Coli</i> : Fusion to a Peptidoglycan Associated Lipoprotein. <i>Bio/Technology</i> 9:1369-1372					
VR	Georgiou, G., et al. 1993 "Practical applications of engineering Gram-negative bacterial cell surfaces." <i>TIBTECH</i> 11:6-10					
VR	Georgiou, G., et al. 1997 "Display of heterologous proteins on the surface of microorganisms: From the screening of combinatorial libraries to live recombinant vaccines." <i>Nature Biotechnology</i> 15:29-34					
VR	Little, M., et al. 1993 "Bacterial surface presentation of proteins and peptides: an alternative to phage technology?" <i>TIBTECH</i> 11:3-5					
VR	Little, M., et al. 1995 "Human antibody libraries in <i>Escherichia coli</i> ." <i>Journal of Biotechnology</i> 41:187-195					
VR	Stahl, S., et al. 1997 "Bacterial surface display:trends and progress." <i>TIBTECH</i> 15:185-192					
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